



PTO/SB/08a (08-03)

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**SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 3

Complete if Known

Application Number	09/957,004
Filing Date	September 19, 2001
First Named Inventor	Kollin Tierling
Art Unit	2635
Examiner Name	Nguyen, Nam V.
Attorney Docket Number	IMM135

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
NW	1	2,972,140	2/14/1961	Hirsch	
	2	4,127,752	11/28/1978	Lowthorp	
	3	4,262,549	4/21/1981	Schwellenbach	
	4	4,333,070	6/1/1982	Barnes	
	5	4,464,117	8/7/1984	Forest	
	6	4,484,191	11/20/1984	Vavra	
	7	4,885,565	12/5/1989	Embach	
	8	5,022,384	6/11/1991	Freels	
	9	5,165,897	11/24/1992	Johnson	
	10	5,175,459	12/29/1992	Daniel et al.	
	11	5,186,695	2/16/1993	Mangseth et al.	
	12	5,283,970	2/8/1994	Aigner	
	13	5,436,622	7/25/1995	Gutman et al.	
	14	5,437,607	8/1/1995	Taylor	
	15	5,575,761	11/19/1996	Hajianpour	
	16	5,690,582	11/25/1997	Ulrich et al.	
	17	6,111,577	8/29/2000	Zilles et al.	
	18	6,160,489	12/12/2000	Perry et al.	
	19	6,422,941	7/23/2002	Thorner et al.	

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FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
NW	20	WO 03/026130 A1	3/27/2003	Immersion Corporation		
	21	JP H2-185278	7/19/1990	Taito Corporation		
	22	JP H4-8381	1/13/1992	Epoch Co. and Key-Planning Co.		
	23	JP H7-24147	1/27/1995	Sega Corporation		
	24	JP H5-192449	8/3/1993	Taito Corporation		

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Sheet 2 of 3

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Application Number	09/957,004
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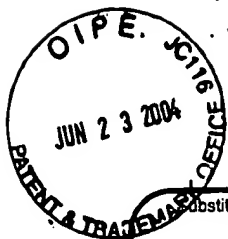
NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
M	25	AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.	
	26	BLISS, "Optical-to-Tactile Image Conversion for the Blind," IEEE Transactions on Man-Machine Systems, Vol. MMS-11, No. 1, March 1970.	
	27	CADLER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," Bachelor of Science Thesis, MIT, June 23, 1983.	
	28	"Cyberman Technical Specification," Logitech Cyberman SWIFT Supplement, 4/5/1994.	
	29	EBERHARDT et al., "Including Dynamic Haptic Perception by The Hand: System Description and Some Results," DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1, ASME 1994.	
	30	GOBEL et al., "Tactile Feedback Applied to Computer Mice," International Journal of Human-Computer Interaction, Vol. 7, No. 1, pp. 1-24, 1995.	
	31	JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," Armstrong Aerospace Medical Research Laboratory, AAMRL-TR-90-039, August, 1990.	
	32	KACZMAREK et al., "Tactile Displays," Virtual Environment Technologies.	
	33	KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," PRESENCE, 4(4):387-402, 1995.	
	34	LAKE, "Cyberman from Logitech," GameBytes, 1994.	
	35	NOLL, "Man-Machine Tactile," SID Journal, July/August 1972 Issue.	
✓	36	OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95, Seoul, Korea, 21-24 August 1995.	

Examiner Signature		Date Considered	2/28/05
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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
PN	37	PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," Master of Science Thesis, MIT, Nov. 8, 1990.	
	38	PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.	
	39	ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," Ph.D. Dissertation, Stanford University, June 1994.	
	40	Safe Flight Instruments Corporation, "Coaxial Control Shaker," Part No. C-25502, 1 July 1967.	
	41	WIKER, "Teletouch Display Development: Phase 1 Report," Technical Report 1230, Naval Ocean Systems Center, San Diego, April 17, 1989.	
	42	YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems, Raleigh, NC, July 7-10, 1992	

Examiner Signature		Date Considered	2/21/05
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